CLAIM AMENDMENTS

1. (Currently Amended) A pharmaceutical composition comprising a recombinant expression vector, said vector comprising ~~consisting of~~ an open reading frame operably linked to one or more regulatory elements, wherein the open reading frame encodes a polypeptide set forth in SEQ ID NO: 5, and a pharmaceutically acceptable carrier , wherein the pharmaceutical composition is suitable for administration to a human.

2. (Currently Amended) The pharmaceutical composition ~~recombinant expression vector~~ of Claim 1, wherein said open reading frame has the nucleotide sequence set forth in SEQ ID NO: 4.

3. (Currently Amended) The pharmaceutical composition ~~recombinant expression vector~~ of Claim 1, wherein said vector is a replication-defective virus.

4. (Currently Amended) A pharmaceutical composition comprising a host cell comprising the recombinant expression vector of Claim 1, wherein said host cell is selected from the group consisting of prokaryotic host cells and eukaryotic host cells, and a pharmaceutically acceptable carrier, wherein the pharmaceutical composition is suitable for administration to a human.

5. – 29. (Cancelled)

30. (Currently Amended) A pharmaceutical composition comprising an ~~An~~ isolated or purified nucleic acid molecule ~~consisting of~~ comprising an open reading frame, wherein the open reading frame encodes a polypeptide set forth in SEQ ID NO: 5, and a pharmaceutically acceptable carrier, wherein the pharmaceutical composition is suitable for administration to a human.

31. (Currently Amended) The pharmaceutical composition ~~nucleic acid molecule~~ of claim 30, wherein the open reading frame consists of the nucleic acid sequence of SEQ ID NO: 4.

32. – 34. (Cancelled)

35. (Currently Amended) An isolated or purified nucleic acid molecule that is substantially homologous to a nucleic acid molecule encoding a Rig protein (SEQ ID NO: 5), ~~wherein the derivative comprises an amino acid substitution in SEQ ID NO: 5,~~ wherein the isolated or purified nucleic acid molecule encodes a protein that inhibits tumor cell growth, wherein the isolated or purified nucleic acid has at least 30% identity with SEQ ID NO: 5, and ~~possesses tumor growth inhibiting activity, focus formation inhibiting activity, and an ability to bind to Raf-1,~~ wherein the nucleic acid molecule optionally is in the form of a recombinant expression vector.

36. (Currently Amended) A host cell or non-human organism comprising the nucleic acid molecule of claim 35.

37. (Currently Amended) A pharmaceutical composition comprising the nucleic acid molecule of claim 35, wherein the nucleic acid molecule optionally is in a cell, and a pharmaceutically acceptable carrier, wherein the pharmaceutical composition is suitable for administration to a human.

38. (Previously Presented) An isolated or purified nucleic acid molecule that is complementary to the nucleic acid molecule of claim 35.

39. (Currently Amended) A pharmaceutical composition comprising the isolated or purified nucleic acid molecule of claim 38, wherein the nucleic acid molecule optionally is in a cell, and a pharmaceutically acceptable carrier, wherein the pharmaceutical composition is suitable for administration to a human.

40. (New) An isolated or purified nucleic acid molecule encoding a portion of a Rig protein (SEQ ID NO: 5), wherein the portion inhibits growth of a tumor cell when contacted with said tumor cell.

41. (New) An isolated or purified nucleic acid molecule encoding a Rig protein (SEQ ID NO: 5) having one or more conservative amino acid substitutions, or a portion thereof, wherein the protein or portion thereof inhibits growth of a tumor cell when contacted with said tumor cell.

42. (New) An isolated or purified nucleic acid molecule that is complementary to the nucleic acid molecule of claim 40.

43. (New) An isolated or purified nucleic acid molecule that is complementary to the nucleic acid molecule of claim 41.

44. (New) A host cell or non-human organism comprising the isolated or purified nucleic acid molecule of claim 38.

45. (New) A host cell or non-human organism comprising the isolated or purified nucleic acid molecule of claim 40.

46. (New) A host cell or non-human organism comprising the isolated or purified nucleic acid molecule of claim 41.

47. (New) A host cell or non-human organism comprising the isolated or purified nucleic acid molecule of claim 42.

48. (New) A host cell or non-human organism comprising the isolated or purified nucleic acid molecule of claim 43.

49. (New) A pharmaceutical composition comprising the isolated or purified nucleic acid of claim 40, wherein the nucleic acid optionally is in a cell, and a pharmaceutically acceptable carrier wherein the pharmaceutical composition is suitable for administration to a human.

50. (New) A pharmaceutical composition comprising the isolated or purified nucleic acid of claim 41, wherein the nucleic acid optionally is in a cell, and a pharmaceutically acceptable carrier wherein the pharmaceutical composition is suitable for administration to a human.

51. (New) A pharmaceutical composition comprising the isolated or purified nucleic acid of claim 42, wherein the nucleic acid optionally is in a cell, and a pharmaceutically acceptable carrier, wherein the pharmaceutical composition is suitable for administration to a human.

52. (New) A pharmaceutical composition comprising the isolated or purified nucleic acid of claim 43, wherein the nucleic acid optionally is in a cell, and a pharmaceutically acceptable carrier, wherein the pharmaceutical composition is suitable for administration to a human.

53. (New) A method of detecting cancer in a mammal, comprising the steps of:

a) providing:

i) a sample obtained from the mammal, and

ii) a nucleic acid probe having complementarity to at least a portion of the nucleotide sequence of SEQ ID NO:4,

b) combining said sample and said probe under conditions wherein a hybridization complex is formed between said probe and said nucleic acid in said sample,

c) detecting and quantifying said hybridization complex, thereby determining the level of a nucleic acid encoding Rig (SEQ ID NO: 5) in the sample, and

d) comparing the level determined in step (c) to the level of a nucleic acid encoding Rig in a control sample,

whereupon cancer is diagnosed in the mammal when the level of step (c) is less than the level of the control sample.

54. (New) The method of claim 55, wherein the mammal is a human.

55. (New) The method of claim 53, wherein the cancer is selected from the group consisting of astrocytoma, glioblastoma, Ewing sarcoma, primitive neuroectodermal tumor, rhabdomyosarcoma, undifferentiated carcinoma, and neuroblastoma.

56. (New) A method of detecting a predisposition to cancer in a mammal, comprising the steps of:

a) detecting in a sample obtained from the mammal a level of a nucleic acid encoding a Rig protein (SEQ ID NO: 5), and

b) comparing the level detected in step (a) to the level of a nucleic acid encoding a Rig protein in a control sample,

whereupon a predisposition to a cancer is detected when the level detected in step (a) is lower than the level of a nucleic acid encoding a Rig protein in the control sample.

57. (New) The method of claim 58, wherein the mammal is a human.

58. (New) The method of claim 56, wherein the cancer is selected from the group consisting of astrocytoma, glioblastoma, Ewing sarcoma, primitive neuroectodermal tumor, rhabdomyosarcoma, undifferentiated carcinoma, and neuroblastoma.

59. (New) A method of detecting cancer or predisposition to cancer in a mammal, comprising the steps of detecting in a sample obtained from the mammal a nucleic acid encoding a protein, which is a Rig protein (SEQ ID NO: 5) having a mutation which prevents guanine nucleotide triphosphate (GTP) from binding to the protein, whereupon cancer or a predisposition to a cancer is detected when the nucleic acid is detected.

60. (New) The method of claim 59, wherein the mutation comprises a mutation of the serine at amino acid position 21.

61. (New) The method of claim 60, wherein the mutation comprises S21→N.

62. (New) The method of claim 59, wherein the mammal is a human.

63. (New) The method of claim 59, wherein the cancer is selected from the group consisting of astrocytoma, glioblastoma, Ewing sarcoma, primitive neuroectodermal tumor, rhabdomyosarcoma, undifferentiated carcinoma, and neuroblastoma.

64. (New) The pharmaceutical composition of claim 1, wherein the pharmaceutical composition inhibits growth of a tumor cell when contacted to said tumor cell.

65. (New) The pharmaceutical composition of claim 1, wherein the pharmaceutical composition is manufactured according to the Current Good Manufacturing Practice for Finished Pharmaceuticals (21 CFR § 211).

66. (New) A method of preparing a pharmaceutical composition, the method comprising combining a recombinant expression vector comprising an open reading frame operably linked to one or more regulatory elements, wherein the open reading frame encodes a polypeptide set forth in SEQ ID NO: 5, with a pharmaceutically acceptable carrier.